Light BioScience LEDs get FDA nod

Light BioScience has US Food and Drug Administration (FDA) clearance for its GentleWaves LED Photomodulation system for the non-invasive treatment of periorbital (eye area) wrinkles and rhytids.

It claims to be the first and only LED device to receive marketing approval for a medical claim associated with cosmetic improvement of aging and sun-damaged skin, further validating the science of LED Photomodulation for skin rejuvenation.

"This is a fundamentally new approach to improving photoaging and environmentally damaged skin that does not rely on high-energy sources and heat damage to photoactivate collagen genes," said Robert Weiss, MD, associate professor of dermatology at Johns Hopkins University School of Medicine in Baltimore, Maryland.

"For the first time, we are both slowing down collagen breakdown and building up new collagen with no pain, no redness and no serious side effects. GentleWaves' unique ability to stimulate and/or inhibit cell signaling pathways for skin rejuvenation truly represents the next frontier in anti-aging medicine," he added.

GentleWaves uses specially coded arrays of LEDs to modulate the activity of living cells. Unlike other laser, pulsed light or radiofrequency techniques used today for skin rejuvenation, this core technology delivers very low-intensity, non-thermal light energy to stimulate collagen and reverse the appearance of photoaging.

With its proprietary and predetermined energy sequencing, the easy-to-use device poses no learning curve or risk of complications. A patient simply sits with his/her face exposed to two panels of over 2,000 yellow cascading LED lights for less than one minute. The device can also be adjusted to treat the neck and chest areas.

According to lead researcher David McDaniel, MD, the FDA clearance marks the culmination of years of rigorous scientific investigation and successful clinical practice by renowned aesthetic physicians nationwide.

Hamamatsu introduces InGaAs PIN photodiodes

InGaAs PIN photodiodes with typical sensitivity ranging from +2 dBm to -20 dBm at 1.55um have been introduced by Hamamatsu Corporation with its G9911-14/-54 receiver optical sub-assemblies (ROSAs).

These have high-speed response, high trans-impedance, low optical return loss, and excellent sensitivity. Compatible with 10Gbps miniature devices (XMD), the G9911-14/-54 are designed for use in XFP transceivers, as well as SONET/SDH network applications.

The G9911-14/-54 have high trans-impedance of typically 6 kOhms and low optical return loss of typically 35 dB at both 1.31 um and 1.55 um. Typical response is 0.85 A/W at 1.31 um and 0.9 A/W at 1.55 um, and the G9911-14/-54 have typical dark current of 0.05 nA.

Requiring only 3.3 V, these are low power devices that provide flexibility in design of XFP transceivers. The G9911-14 has a pin design while the G9911-54 incorporates a flex board interface for space-restricted designs.

Evident embeds QD in plastic

Evident Technologies has put the package up front with EviComposites: quantum dots of II-VI, III-V, or IV-VI material, integrated into a series of common resins and polymer matrix materials widely used in many commercial manufacturing processes and products.

Evident engineered its proprietary EviDot quantum dots into a series of new easy-to-use forms designed to speed the development of new materials and new products by making QDs of materials more applicable to common manufacturing processes.

"Quantum dots can be fragile and hard to functionalise but the focus of our business has always been on stabilising them so they become more highly functional and easy to use," said Clint Ballinger, Evident Technologies CEO.

"Putting our proprietary QDs into a range of common plastic materials accomplishes this on a broad scale, bridges a critical gap in the field, and can expand and accelerate the use of QDs in creating new products."

EviComposites have wide applicability for applications ranging from paints, inks, molded parts, films, fibers, solar cells, optical standards or numerous other areas. The EviComposite resins are available in UV curable clear resins, as well as thermal and UV Sol-gels.

The EviComposite particles and powders are available in polycarbonates, polystyrene, Polymethyl Methacrylate (PMMA) and polyethylene in quantities from 1g to kgs. EviComposites come in colors ranging from blue to into reds, with a selected set of polymers in the near IR.

"A critical problem with any emerging technology is driving trial usage, which in turn drives application development and market growth," says Sean Murdock, executive director of the NanoBusiness Alliance.

"To the extent that EviComposites are able to retain the nanoscale phenomena of quantum dots in a 'conventional' material toolkit, it will accelerate the adoption of the technology by reducing the learning curve and transaction cost of trial usage."